ly explained anywhere. The function of caeruloplasmin is only dealt with sketchily. The mention of 'high-energy compounds' in one of the chapters on hepatocyte metabolism also set up an allergic reaction in me, but this is a personal prejudice.

Overall, this is an excellent book and I recommend it highly. I learned a lot from it, including the fact that lemurs are prone to haemosiderosis and that indigo snakes can suffer from unconjugated hyperbilirubinaemia.

B. Halliwell

Brain Iron, Neurochemical and Behavioural Aspects

(Topics in Neurochemistry and Neuropharmacology, Volume 2)

Edited by M.B.H. Youdim

Taylor and Francis; London, 1988

ix + 148 pages. £30.00

It has been known since at least 1887 that areas of the human brain are very rich in iron. It is also established that iron-deficiency anaemia, perhaps the world's commonest nutritional disorder, is associated with behavioural changes and impairment of learning ability in children (the evidence for this is reviewed in detail by Pollitt and Kim in Chapter 5). Recent suggestions that iron release from injured brain tissue promotes rapid free radical reactions have led at least one pharmaceutical company to make a major investment in the use of antioxidants, hopefully to prevent degeneration of nervous tissue after trauma or hypoxia.

Despite this, it is surprising how very little is known about brain iron; even its precise molecular nature is in doubt. This small but well-presented book summarizes current knowledge of the area. The book is timely and I hope that it will stimulate further research.

In Chapter 1, Hill reviews the distribution of iron in the brain and its relation to the GABAergic system; most data have come from rats. This chapter overlaps slightly with the beginning of Chapter 4, in which Yehuda and Youdim first describe brain iron and then detail their interesting studies on the effects of iron deficiency on the function of dopamine D2 receptors. Despite the overlap, both chapters are well-written and authoritative, with up-to-date references. Equally valuable is Chapter 2, in which Wrigglesworth and Baum set out clearly what is known about iron-dependent enzymes in the nervous system, showing that iron plays a critical role in both neurotransmitter synthesis and in energy metabolism. My only criticism of this otherwise excellent account is that the authors persist in referring to 'xanthine oxidase', when it is well established that NAD-dependent xanthine dehydrogenase is the major xanthine-oxidising enzyme in vivo.

I found Chapter 3 ('trace metals and neurochemistry') to be the weakest part of the book. It seemed to me to be irritatingly vague and uncritical, and very few references to recent work were included (in contrast with the other chapters, in which references are up-to-date). Thus, recent (post 1984) work on zinc metabolism, copper in Parkinson's disease and the neurotoxicity of manganese complexes is not included.

Despite these criticisms, the book is very useful overall, and I hope that it will provoke further research in this important area. The price is not unreasonable by today's standards.

B. Halliwell